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- ★ Synchronized Breeding of Farm Animals
- ★ What Is Your Land Worth?

June 1966



THE MACDONALD LASSIE

Editor
WALKER RILEY, B.S.A.
Macdonald College

Publisher
RONALD J. COOKE

Advertising Manager
R. J. COOKE

Associate Editor
LANCE K. LeRAY

Production
E. L. COOKE

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D. PARSONS

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Ad. representative
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OUR COVER PHOTO: Potato field in New Brunswick

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In recent years, we have come away from every agricultural fair with an increasing feeling that something is wrong. The attractions are bigger; the crowd is there. But an uncomfortable sense of emptiness persists. We have come to the conclusion that our fair boards have lost sight of their objectives.

The basic purpose of our agricultural fairs, we have always understood, is education. Their aim is to provide information by which a farm family can not only survive but prosper in a competitive society. Exhibits and competitions focus attention on standards of excellence in crop production, on the value of superior livestock, on those intangibles which bring satisfaction to daily living. It is their job also, we believe, to interpret rural living to non-farm people, to develop in them an awareness of the essential nature of the production of food, to communicate to them the sense of satisfaction which men of the soil derive from their work.

We agree that fairs also fill a social need. We too, like to meet old friends. Nor can we deny that fairs also have an entertainment function. We know the thrill of watching a good horse clear a difficult fence on its third try, or a spunky team of drafts pull away with just one more sand-bag. We have cheered with the rest of the crowd when a stunt driver has walked away from an impossible wreck. We have gone with the youngsters to the midway to see if old favourites are back or new adventures added. And we readily admit that it is this entertainment that attracts the crowds.

These means however, necessary as they are for enticing large numbers of people through the gates, have become ends in themselves. Extravagant entertainment spectacles, the directors will tell you, are needed to attract the crowds, and in turn, grandstands must be full to pay for them. The circle is tight and complete. Success of the fair is measured only by the revenue at the gate. Education, the real end for which the fair exists, has been squeezed out or left behind.

What for example is educational about a "pail of oats, any other variety," in this age of high-energy livestock rations? What are the merits of "six stalks fodder corn, dent or flint" in an area where economic survival demands hybrid varieties precisely bred for specific conditions? Where, in all of Canada, will you find one man with one acre of fodder carrots who might be inspired by the exhibit of "half bushel each of swedes, mangels, carrots, potatoes". How many farmers' wives will spend time studying the neat wrapping of "ten pounds dairy butter suitably packaged for shipping to local points?" What practical or cultural stimulus does one find in studying a pair of fowl, Black Minorcas, one hen and one cock" when the only poultry farm within miles is stocked with a four-way hybrid of inbred lives identified only by numbers?

How can fair boards justify spending public grants to perpetuate these relics of the past at a time when a fast-changing agriculture is fighting for economic survival? How many more years will men be expected to volunteer for several days committee duty in the prime hay-making weeks of June? It is not surprising that exhibitors and visitors are fewer each year in the agricultural pavilions, and the crowd comes only to be entertained.

With all that said, we are not pessimistic. We feel that the fairs can and do have a part in our fast-changing industry. Real improvement has been made recently in the livestock classes, thanks only to government directives.

Do we have to wait for directions to come with the grants to bring the rest of the fair up to date? Have we not the imagination to devise exciting programs which reflect the basic purpose of fairs, agricultural education?

Walker Riley



WHAT IS YOUR LAND WORTH?

Why is an acre of land that sold for \$5 to \$10 in the 1930's worth \$95 today? In this article, Mr. Brown points out that 3 main factors affect land values, and explains how these follow the laws of economics.

By James G. Brown

more rapid, and no trend so apparently. No change in agriculture has been out of control as that of changing land values.

As in most questions of value, the answer is not entirely an economic one. An economist does not attempt to explain the changes in a buyer's fancy, or how demand for rural land increases with changing urban pastimes. But regardless of social changes which influence buyer's fancy, the machinery of price change is economic in nature.

The market for any commodity is dynamic. The influences on price are continually adjusting according to three factors: Money supply, commodity supply, and buyers' demands. To see order in this commotion, one must first recognize the static or underlying principle of land value. If land is to be kept in the same enterprise after sale as before, its value at any time is its annual net return divided by a current interest rate.

$$\text{Production value} = \frac{\text{annual net return}}{\text{current interest rate}}$$

An example will clarify this statement; if land will return \$50 per acre per year, and the owner expects to receive 6% from his invested money, then that land is worth \$833.

$$V = \frac{\$50}{6\%} = \$833$$

Because of the risks involved in agricultural investment, Canadian farm land is traditionally discounted at about 14%. Under these circumstances our case now becomes \$357.

$$V = \frac{\$50}{14\%} = \$357$$

Nowhere in this article do we consider the cost of land as a criterion for land value. This is a very important fact to remember for anyone undertaking a land improvement program. If he is spending \$100 per acre on improvements such as tile drainage, then he must be certain that there will be an

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In the near future you will be able to choose the exact breeding date for your livestock. It offers exciting possibilities for management planning; the benefits to the whole industry will be many.

SYNCHRONIZED BREEDING OF FARM ANIMALS



By Dr. Robert Baker*

Methods of "Synchronizing Estrus" or bring farm animals into heat within a predetermined, restricted interval of time are now being investigated by several Universities, Experiment Stations and pharmaceutical companies around the world and it is almost certain that successful methods of estrous synchronization will be available to Canadian Livestock producers within foreseeable future.

What are the advantages of synchronizing estrus of farm animals?

First of all, bringing all the females in a group into heat at approximately the same time will improve the efficiency of the breeding operation and will encourage, if not demand, the use of artificial insemination (A.I.). The Canadian livestock producer has not begun to realize the potential of A.I. Labor and technical problems have hampered extensive application of A.I. However, if groups of females could be brought into heat and induced to release their eggs or "ovulate" at a preselected time, problems such as heat detection, the storage of semen and expensive technical labor could be minimized, for the realization of most of the benefits of A.I.

A successful method of controlling heat and ovulation in cattle will proba-

bly find one of its best applications in the **Commercial beef operation**. Heat detection while cows are on pasture has practically prevented the use of A.I. However, synchronizing estrus in large groups of cows will result in a widespread application of A.I. in these operations.

In the dairy industry estrus synchronization will probably be used mainly to breed groups of heifers on a single day. This will enable more heifers to be bred artificially and will reduce the number bred naturally while on pasture to bulls of questionable genetic merit. Increasing the size and efficiency of the dairy operation has encouraged the practice of raising large numbers of replacement heifers as a specialized operation. Development of successful methods for controlling estrus is expected to accelerate this trend, since it will make it possible to market groups of heifers bred to calve on given dates.

Techniques used to control the time of heat and ovulation may also be used to increase the number of eggs released by females at any one time. These techniques will find also immediate application **in sheep and swine operations**. They will not only permit large groups of females to be artificially insemi-

nated at pre-selected time, but could also be used to increase lambing rates and litter sizes. Effective methods might also be used to induce heat, ovulation and fertility in ewes during the season of the year when they do not normally breed.

The most important practical reason for synchronizing estrus and ovulation in our farm animals would be to reduce the spread of birth dates. Many farmers, I am certain, have wished that the time of livestock births could be restricted to a few days, thus cutting down on the period of night-time vigils with expecting females. Added to this convenience would be the advantage of having groups of offspring of uniform age. They would be more easily fed, handled, and sold as a homogeneous group. Specialized raising and breeding areas could be provided and proper sanitation procedures could be carried out between groups to help prevent or control disease.

What methods have been tried?

One way to induce estrus or heat is by ingesting one or more doses of an estrogen, the female sex hormones. Estrogens will almost invariably cause heat in 24 to 48 hours, but they do not cause ovulation. Thus, this treatment is use-

less, if not harmful, even though mating takes place. Various other hormones can be injected to stimulate the ovary to produce and release eggs, but they do not induce heat. Furthermore, some of the eggs produced by this treatment are defective and cannot be fertilized.

One of the most effective methods for synchronizing heat in a group of females is to give daily injections of progesterone. Progesterone is the hormone secreted by the ovaries during pregnancy and during the part of the estrous cycle when the animal is not in heat.

How is this hormone used to synchronize estrus? First, all of the animals in a group are injected with progesterone every day for two to three weeks. During this time the females do not come into heat because progesterone prevents them from producing their own hormones to cause heat and ovulation. In other words, progesterone is used as a blocking agent. Now, if the injections are stopped on the same day for all animals, most of the treated animals will come into heat from three to seven days after the last injection. It has been said that "this method is a little like the starting gate at a race track. Since all animals are held so that they will start

at the same time, they will tend to be bunched at the first turn."

Under most farm and range conditions, daily injections of progesterone are too costly and too inconvenient to be practical. What is needed is a way to administer a daily treatment which does not load excess work or expense on the livestock producer.

Two equally promising approaches are now being developed to give farm animals daily doses of blocking agent. One technique involves putting the compound either into a silicone rubber implant or into a pessary. The implant is usually placed under the skin in the foreflank area and the pessary in the vagina. The compound continuously moves out of the implant or pessary into the animals system and prevents heat as long as they are left in the animal. Approximately four days before the desired heat date the implants or pessaries are removed. The pessary technique has been extensively tested in sheep under Australian range conditions. The degree of heat synchronization has been good and fertility is normal.

On farms in Eastern Canada where animals are usually fed a meal ration,

at least once a day, the most convenient way to give a daily treatment would be to mix the compound into the diet. Very small amounts of the blocking agents, less than one-tenth of a pound per ton of meal are required to prevent heat. The females are fed the treated feed 16 to 21 days. When the animals are returned to their normal untreated diet, most of them come into heat, ovulate and will mate from three to seven days after stopping the treatment. Experiments are being conducted on the Macdonald College Farm and on cooperating farms in the Macdonald College area, to help develop these methods so that they can be used by livestock producers.

In our initial beef cattle experiments, heats have been well synchronized in about 80 percent of the cows. Cows which failed to conceive to the first post-treatment service showed a second post-treatment heat 21 to 28 days after stopping the treatment. So far, only 60 percent of the cows have conceived to artificial services during the first and second heat periods after treatment. There were no palpable abnormalities such as cystic ovaries to account for some of the cows not showing heat or the low conception rate.

Results from our first sheep trial involving 90 ewes are difficult to interpret because several ewes were pregnant during the treatment period. However, the lambing rate was above 150 per-cent in both the pregnant and synchronized ewes, indicating that the treatment did not interfere with the normal reproductive process.

Heats have also been synchronized in both dry sows and gilts by feeding a treated diet for 18 to 21 days. Additional hormone injections were given in some trials to increase the number of eggs released. The females were either artificially inseminated or mated naturally. The hormone injections did increase the number of eggs released, but for the most part, litter sizes were not above normal in the sows and gilts that were allowed to farrow.

These results and the results from other experiment stations have been encouraging. There are still problems to be solved but I am confident that successful methods of synchronizing estrus will be developed. Further I am confident farmers will be able to plan the breeding dates for their livestock and have their calves, piglets and lambs when they want them.

* Dr. Robert Baker, is reproductive physiologist with the Department of Animal Science, Macdonald College.

Marketing uniform lots of stock on a specific date would be one advantage of selecting the birth of farm animals.



HOW MUCH —

(continued from page 5)

annual increased profit of \$14, or his improvement cost will not be added to the value of the land.

$$\begin{array}{r} \$100 = \text{required increase in annual} \\ \text{profit} = \$14 \\ \hline 14\% \end{array}$$

Effect of buyers' demands

Having thus established a basic means of evaluating land, we are now able to consider its changing forces which separate the simple theory and the complex fact.

In our example you will note that the land remains in the same enterprise after sale as before. But buyers frequently have different plans than sellers, and consequently it is unrealistic to consider only this limited case.

Land always has alternative uses. If any of these are considered in price negotiation, then the concept of transfer value is introduced. As an example, we will consider the purchase of wooded farm land to be used as vacation areas for urban people. This is a particularly timely issue in Quebec, since, for example, ski enthusiasts seeking land for chalets have tripled the average land value of Brome County in the past ten years.

Let us assume that a skier's desire for a country place in Brome County is such that he gets \$100 satisfaction per year from an acre of land. There is very little risk involved in his program for the land and so his interest or discount rate will be low (5% for example). Using our original formula, we find that the ski enthusiast is willing to pay \$2,000 per acre for the land of his choice. For example then, the transfer value of this piece of land is \$2,000. Farm operations cannot hope to compete with these high transfer values and as a result, much land is being lost to people and industries which are able to

gain more per year at less risk than in farming. As a rule of thumb if the transfer value exceeds the value obtainable in farming, then the land in question will be sold to the enterprise for which the transfer value is greatest.

All price change is the result of a shift in the supply of, or the demand for, a commodity. Let us consider now several factors which have caused changes in supply and demand in the land market. We have already mentioned the new desire of city people for country property. These new buyers are increasing the total demand for rural property and consequently, the seller can obtain a high land value price. Only the shrewdest of farm managers can gain land returns that are high enough to compete with these recreation transfer values.

Effect of mortgage credit

Increased mortgage credit to agriculture has resulted in an increase in demand by farmers wishing to expand. This changing ability to purchase land has had the expected effect of raising prices. Short and intermediate term credit have been extended to farmers on very attractive terms in recent years. This credit, used primarily for production purposes, has enabled farmers to establish more productive and prosperous operations. Through the value formula, it is clear that any increase in the annual net return has the effect of increasing land values. ($V = \frac{A}{R}$). If the

annual returns are doubled, then the land value will double. One must include at this point all such factors as farm location, farm buildings, local markets and transportation facilities because these are directly related to the potential profit per acre of the farm. These factors influence land value by changing the "A" of our formula — annual net return.

In contrast to the fact that the total acreage of arable land is relatively

fixed, the amount of land offered for sale at any time is very flexible. The cost-price squeeze is taking its toll. Rehabilitation projects have encouraged some unsuccessful farmers to move to the cities. These situations, with the general trend of young people away from the farm, are all serving to maintain a supply of land, and generally are increasing supply, to the purchasing market.

Two opposite effects are observed from this changing supply: increasing supply usually causes a decrease or at least a levelling off of price, and this effect has been apparent in some areas. But there is also an opposite effect. If land was not available to a potential purchaser, he would be obliged to substitute some other factor for land in his proposed operation. This often involves considerable expense because, at least in agriculture, it means intensifying operations. Tile drainage, irrigation and such improvements to increase production are extremely expensive. If the alternatives are expensive, and land does become available, then it too can command a higher price. This latter argument applies only in cases of a large general demand such as exists today.

Outside of irrational changes in land value due to the whims of individual buyers and sellers, price changes can generally be described in the three major fields discussed above; changing production values, changing demand and changing supply of land. As in every field of study the general principles of land value must be expanded and modified to suit the individual circumstance. However, without these general principles the single case cannot be analyzed, and land value changes will continue to appear meaningless and uncontrollable to those of us who are most affected by them.

* James G. Brown is Extension Assistant and a student of Agricultural Economics, Macdonald College.

Gastronomic Delight or Gastric Dismay?



by Diane Raymond*

Is this title misleading? I think not, if you realize that even the most plebian fare becomes a "gastronomic delight" when eaten out of doors. There's something very special about outdoor eating. These meals have a festive air, with a gaiety and freedom not common to indoor meals. The adventure of the picnic, the camaraderie of the camp fire; the hustle-bustle of the barbecue, all create a particular infectious excitement and enthusiasm that turns hot dogs and hamburgers, chicken sandwiches and potato salad into extra tasty foods.

The words of George Gershwin's song "Summertime, When the Livin' is Easy" reminds us that when the thermometer hits the high 90's we need help to make this easy living an actuality. So we move out onto the verandahs, porches, patios, on the lawn, or down to the beach, and meals out of doors become a summer way of life for many. However, some extra care needs to be taken when removing the service of food from the relative safety of indoors where adequate refrigeration and facilities for safehandling of food are always available, to the outdoors, where careless handling can so readily occur, so that otherwise safe food can inadvertently become unsafe or lead to "gastric dismay".

There is a tendency on our part to feel that our own actions cannot be harmful to the safety of food. This, unfortunately, is not the case. Nothing we could do could be more likely to cause considerable "gastric dismay" or even more severe illness, than to leave a picnic lunch basket containing, shall we say, sandwiches filled with a chicken salad mixture or egg mixture (two com-

mon picnic specials) — in the car for two or three hours on an ordinary hot summer's day, unless the picnic basket is an insulated container, where the internal temperature can be held at 50°F. or lower.

Many of the combinations of foods we prepare for outdoor eating are mixtures of foods with salad dressing, or are foods that, unless kept cool until used, can have bacterial activity develop, which may lead to later trouble when the food is eaten. Not all foods are equally vulnerable, but to avoid any possibility of food borne illness use the same care when handling foods to be used for outdoor meals as you do for your regular meals. That is, provide adequate low temperature holding space for perishable food items. Wash and trim raw foods and have them ready for use, but avoid combining sauces, or dressings until just before serving time.

While you can't forget all the daily routine chores that go with running a home just because it's summer, there are some ways of making them more fun and less routine and moving meal preparation out of the hot kitchen into the outdoors is just one way. Do I hear a voice saying, "Ah ha — but that isn't so, the basic preparation for all these outdoors meals still takes place in the kitchen" — and while everyone else may get out, the housewife doesn't. But need this be? By a little judicious planning outdoor meals of any type can be a pleasure and fun for the homemaker as well as the rest of the family.

Before outdoor eating can be "easy" for the homemaker some old concepts have to be done away with and some new ideas accepted. First, ants, mosqui-

toes and other insect life need not be regular guests of your outdoor meals. The screened porch is not new but a screened area in the garden may be — or a portable screened summer room that can be set up anywhere, provides another form of protection from unwanted insects. There are now numerous sprays available that can rid an open area of insects for a reasonable time period, the use of insect repellent lighting or candles for after dark meals, adds to the comfort of the participants and provides an unique and pleasant atmosphere. One point to note here is spraying of repellents should be done before meal preparation begins to avoid accidentally spraying the food or the eating surfaces of dishes or cutlery.

Outdoor eating is simplified when some previous planning is done to make sure that certain equipment is available. A lot of the fatigue involved in outdoor meal preparation is due to energy spent looking for suitable containers, or time wasted hunting for bits and pieces of equipment, not necessarily essential to indoor meal preparation, but vital to a successful outdoor meal. If you are going to have picnic meals get appropriate equipment and keep it all together. Get equipment for carrying and keeping cold foods cold. Nothing spoils a meal faster than limp salad and nothing is less pleasant to experience than a touch of food poisoning due to careless handling of perishable foods. Good sized plastic foam insulated containers are available at a cost of less than two dollars each. In them chilled foods remain chilled. Ice isn't hard to get and there is no reason why easily spoiled foods can't be packed, surrounded by

ice or frozen packs. Cold drinks, packed in ice, make a really refreshing drink, not just a lukewarm thirst slaker.

Maybe the younger members of the group don't mind sitting on hard ground or stones but for most of us a folding chair makes outdoor eating more pleasurable. The old idea of spreading the picnic feast in all its splendor on a cloth on the grass an hour before serving certainly whetted everyone's appetite, but did nothing to keep the food in a safe serving condition, far easier and much safer is the use of a folding table or bench to hold food which can be put out just before serving.

Perhaps the best way to make outdoor living easy on the chief cook is to plan simple menus, incorporate lots of do-it-yourself items on the menu, so that everyone shares part of the load. The backyard barbecue or cook-out can incorporate casserole type foods that can be pre-prepared. When making a favorite casserole dish make twice as much and pack one lot in a foil pan and freeze it — it will reheat as well in charcoal as in an oven and the charcoal fire tenders do your work for you. Pre-prepared items suitable for desserts, are easily incorporated into regular cooking activities and can be suitably wrapped and frozen for later use. If you don't have a freezer there are still items that lend themselves to pre-preparation although the time element may be cut to a day ahead instead of weeks ahead. Partial cooking may be the answer to some time problems but remember partially cooked meat or poultry is a highly perishable item and must be held refrigerated at 50°F or less, or frozen solid. The non-frozen, partially prepared item should be used within twenty-four hours.

Salads are popular summer fare and lend themselves to easy preparation. One of the big advantages of salads are variety and interest — they please all comers by letting the do-it-yourselfers goes into outdoor meals, preparation and service. Simple foods become gastronomic delights under the spell of the outdoors.



really take over and make their own combinations. Prepared salad greens, washed and trimmed lettuce, spinach, endive, celery, etc. can be ready in plastic bags in refrigerator or cooler carrier. Other fresh fruits and vegetables cleaned, with cores, skins or other non-edible parts removed can be similarly packed and ready to be used for making up salads suited to individual likes. By waiting to mix dressings with your salad ingredients until just before serving two hazards are avoided — the greens and fruits or vegetables stay crisp and flavorful — and there is no danger of bacterial growth which could cause illness. All the prepared ingredients can be put out along with a choice of dressings and all types of salads will result. You may not fancy tuna fish and pickled beet with cabbage and orange slaw, but who knows, others find this a real gourmet delight.

When salad makings have to travel a distance, the separation of ingredients insures a much more appetizing final salad. Even the proverbial potato salad with its dressing added just before serving is a more eye appealing, taste tantalizing item than the soggy, mush mixture so often served. Hard cooked eggs travel best with their shells on, it's no problem to shell an egg and it is easier to pack them into the cooler with shell on than off.

A cookout offers lots of room for the amateur cooks to take over the meal preparation — however, a little planning and pre-preparation here avoids some later problems. Not every food item lends itself to direct heat cooking equally well, so select foods that may be cooked in reasonable lengths of time. Match up your foods, it's no fun to have a portion of the meal and then stand waiting until something else is cooked. If potatoes or corn take an hour in the coals, don't start meat going until the final 5 — 10 minutes of the hour. If you are going exotic and doing kebabs make sure all the component parts take approximately equal time to cook, an undone piece of meat doesn't balance an overcooked piece of mushroom or green pepper. If children are going to be the performing artists keep foods simple enough that there are no complicated steps involved as one or two may be left out resulting in an unpalatable final item.

"Easy Livin" in Canadian summers includes living out of doors with all the possible ways of eating out of doors. This can be easy for the housewife and full of pleasure for the family and guests if adequate planning and care

*D. A. Raymond P.Dt. BSc (HEc) M.Sc.
School of Household Science
Macdonald College*

A NEW MFJ DEP'T ▸

**"Today's Research
for
"Tomorrow's Practice"**

AROUND THE CORNER:



SAVING SOIL NITROGEN

When bacteria attack organic matter in soils they first create ammonia, then nitrites, and finally, nitrates. Ammonia and nitrates are the materials used by plants for growth.

Research in the field of soil chemistry at the University of British Columbia has revealed a previously unknown chemical reaction which will aid in understanding why thousands of tons of nitrogen, representing millions of dollars, are lost annually to farmers.

These losses are related to the nitrogen cycle, basic process by which nitrogen in organic fertilizers is changed and utilized to promote plant growth.

Dr. Leroy Wullstein at UBC, has shown that when the cycle reaches the point where nitrites are created, these actually react with certain metal ions present in the soil to create large quantities of nitrogen gas which are lost to the atmosphere.

Since the mechanism of its reaction is now partially known, agricultural researchers can concentrate on developing methods of preventing the nitrogen escape.

Dr. Leroy Wullstein, University of British Columbia soil scientist.

CAN BACTERIA CAUSE MUTATIONS?

If all offspring were exactly like their parents, our plant breeders and animal geneticists would soon be out of a job. Evolution would come to a standstill; there could be no further improvement in our livestock or out-field crops.

But in every generation, nature tries out something new and different. Or she tries out again an old "idea" that has always failed, but perhaps will survive this time if conditions are right.

These natural, experimental changes or mutations may be obvious, or they may have slight effect and be hidden by surrounding conditions, like the weather, or feeding. If they are pure muta-

tions, there will be no record of them in the ancestors, but will be carried on in all future generations. Some mutations are lethal; the plant or animal never survives to reproduce. Others are useless; the descendants will lose out in the battle for survival. But now and then, a really useful mutation comes along to permanently improve all future generations.

Over the centuries, man has made use of these naturally occurring changes in his selection of better crops, better animals. But it is only in recent years that the mystery of the mechanism of a mutation has begun to be understood. And it is more recently still that ways have been found to speed up the occurrence

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▲ Research with tomatoes at Macdonald College suggests that bacteria may cause changes in the plant that can be carried forward to the next generation.

Compiled by T. Pickup of the Information and Research Service,
Quebec Department of Agriculture and Colonization.

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The Farm of A. L. Meyer & Son

PHOTOGRAPHS BY
OMER BEAUDOIN



Home-grown vegetables on the farm of Mr. Maurice Laliberté at Honfleur in ▲
Bellechasse County.

The Marketing of Fruits and Vegetables

(From a recent speech by Dr. Ernest Mercier)

By subsidizing the construction of fruit and vegetable storages, the Government of Quebec greatly facilitates the systematic marketing of fruits and vegetables — as follows:

In 1962, Quebec decided to participate in the joint federal-provincial plan to provide agricultural cooperatives with financial assistance for the construction of potato warehouses. This policy enabled cooperatives to build potato storages if they could find 25% of the cost. The balance of the capital investment (excluding cost of machinery and equipment) is assumed jointly by the Government of Canada and the Government of the Province concerned; 37½% of the cost of the construction being covered by a grant and the remaining 37½% by a loan. In 1964, the Quebec Government decided to pay by itself the cost of the machinery and equipment up to a limit of 15% of the total cost of the storage

and fittings. This has reduced the co-operative's initial investment to only 10% of the total cost.

I think I can safely say that this assistance policy is the most generous of its kind in the world. But I hasten to add that this assistance is conditional. In the case of each application, the cooperative's requirements must be exhaustively studied by a special committee, the project must be judged economically sound and profitable before it can be accepted, and the growers concerned must agree to submit themselves to a certain discipline as regards growing methods and the delivery of their entire crop to the co-operative.

The financial assistance I have just explained is also offered, although only by Quebec, to cooperative groups wishing to construct storages for other vegetables than potatoes and for fruit.

The Government has so far helped

to build 8 potato warehouses, a storage for swede turnips or rutabagas, an onion storage and two strawberry reception centres. A number of other projects for the construction of co-operative storages are now being studied. I feel that this trend towards collective action is going to gain momentum in the coming years and will greatly contribute to making available to wholesalers and large food-retail stores regular supplies of fruit and vegetables of steadily improving quality.

A second government measure that I want to emphasize is the drawing up of a new set of regulations concerning the sale of fruits and vegetables. Without going into too many details, I think I should point out some of the main features of the new regulations in order to give you a general idea of their scope.

These regulations have been designed to protect both the producer and consumer of fruits and vegetables and will come into force in the near future.

They are designed to protect the grower by eliminating unfair competition due to inferior produce and enforcing the grading of his products prior to sale.

They are designed to protect the consumer by ensuring him of a choice of sound, high-quality products and by attempting to prevent fraud and misrepresentation to which he may be exposed.

The regulations compel all persons engaged in marketing fruits and vegetables intended for human consumption to offer for sale only products graded, packed, and marked in conformity with their provisions. With the exception of growers who sell their own produce, all persons engaged in marketing fruits and vegetables are required to be registered with the Department of Agriculture and Colonization and to give any information required of them.

With a view to facilitating access by Quebec growers to markets in other provinces and abroad, the new regulations include all the basic standards of the federal regulations for fresh fruits and vegetables.

Another important clause of the regulations requires that containers of fruits and vegetables must bear conspicuously the words "Product of Que-

bec" in the case of a fruit or vegetable produced in this Province or, in the case of produce originating outside Quebec, the name of the country of origin or, if it is a Canadian product, the word "Canada" or the name of the province of origin. It should be pointed out that displays of fruits and vegetables in retail stores will also be required to carry indications concerning the origin of the products. Besides protecting the producer and consumer, these regulations, I feel, will do a great deal to promote progressive fruit and vegetable trading. I hope they will also encourage the buying of products grown in Quebec.

In closing, I would emphasize that distributors of fruits and vegetables have a big part to play in promoting the buying of home-grown produce. They are already doing well in this connection — as shown by the success of the annual campaign sponsored by the Quebec Fruit and Vegetable Wholesalers Association under the slogan "July, Salad Month", and as shown by the excellent publicity material put out by some of the large retailing stores in Quebec.

Wet pastures and low-lying land are breeding grounds for many kinds of parasitic larvae. It is advisable to pasture sheep on high, dry land.



Control of Parasites in Sheep Flocks

Every year, sheep breeders suffer fairly high losses from the parasitic infestations which exist to a more or less considerable degree in nearly all flocks. Unfortunately, too few breeders bother to administer a good treat-

ment in order to destroy the parasites and get rid of their ravages.

The principal conditions favouring the spread of parasites are moisture, overcrowding and high stocking rates, dirty sheepfolds, and anything that is

likely to lower the vitality of the animals.

Wet pastures and low-lying land are excellent breeding grounds for parasitic larvae of all kinds. It is therefore advisable to pasture sheep on high, dry land.

Thin sheep with chronic diarrhoea usually harbour large numbers of parasites. As infestation increases, the animals develop a dry fleece, shed their wool, and die one after another as a result of various disorders and diseases due to their great weakness.

Today, treatment of sheep against worms is comparatively easy and within reach of all breeders, since there are specific medicaments such as thibenzole (thiabendazole) and phenothiazine (which was, up to the last few years, the most recommended anthelmintic). Thibenzole is effective against gastro-intestinal ascarids and stomach and intestinal worms. Treatment can be carried out before lambing or during the fifteen days before the sheep are put out on pasture. Ewes must not be treated within four days before and after lambing. If the animals show signs of infestation in summer, an additional dose should be given. It is very important to follow the manufacturer's direc-

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tions. Fasting is not necessary in connection with thibenzole treatment.

Treatment in the fall, when sheep are brought into the fold off pasture is also advisable because it rids them of worms and gives them a chance to reap the benefit of the extra care given them during the period of wintering.

Farmers wishing to obtain medications can obtain information from their county agronomer.

As a preventive measure, the shepherd should avoid introducing any animals into his flock which are not healthy and should make sure that animals already treated do not become reinfested from contaminated pasture.

He should also ensure that they are well and suitably fed and provided with the mineral supplement which is even more important for sheep than for some other livestock.

MARC AURELE DIONNE
Agronomer,
Animal Productions Division

ARE PLASTIC-PACKED MEATS A RISK?

By sealing cooked meats such as ham and tongue in air-impermeable plastic packs under vacuum, putrefaction is delayed and attractive colour retained. A question which arises is whether the meat is safe to eat towards the end of its storage period or might it, while tasting fine, have become poisonous due to the growth of *Clostridium botulinum*, a bacterium which produces one of the most virulent poisons. Fish has been found to be susceptible to this — and to have been responsible for at least two outbreaks of food poisoning.

To answer the question, H. Pivnick of the University of Toronto, and H.

Bird of the Canadian Packers Research Laboratories, Toronto, inoculated sliced "polony", ham, jellied tongue and other meats with spores of *Clostridium botulinum* (types A and E), and sealed them in pouches under a vacuum. After storing the packs for various lengths of time in air, at 30°C, they determined whether the meat was toxic or not by injecting its filtrate into mice and observing whether or not the mice died. They also analysed the meat for nitrite, salt, and water content, as it was known that these markedly affect the growth of toxin-excreting bacteria.

The results, rather reassuringly, show that the danger of poisoning is more hypothetical than real — but it quite definitely does exist. Ham is especially susceptible to *C. botulinum* type A, for

example, but at 30°C the chances are it will become putrid before it becomes poisonous. Below 15°C toxin is either not produced or produced very slowly. Thus it is at temperatures between these two that the danger becomes real.

Other meats are either less susceptible or resistant altogether because of their nitrite and salt content. If the content is low, as it sometimes is, they too can be a danger; "polony" and jellied tongue can quite definitely be toxic and yet still be acceptable to the palate. For maximum safety the processor should keep the salt content as high as is practicable, and the distributor and housewife should store the packs in a refrigerator.

(From "New Scientist")

SOWS NEED MORE VITAMIN B₁₂

Sows need more vitamin B₁₂ than most of them are getting.

This has been the finding in studies of CDA's Animal Research institute in Ottawa.

Insufficient vitamin B₁₂ can mean

repeat-breeder sows, smaller litters, and increased young pig mortality.

"About 30 per cent of the eggs and young produced by sows are lost before farrowing and a similar percentage of young are lost after farrowing,"

Dr. G.L. Frederick of the institute explains. "The loss to livestock producers and the national economy is tremendous.

"Our work has revealed that part of the problem is vitamin B₁₂ deficiency. We found that inadequate amounts of B₁₂ are added to sow diets at present."

Vitamin B₁₂ is present in significant amounts only in animal and bacterial products. The trend towards substituting vegetable protein for animal protein in livestock feeds means that B₁₂ supplements must be added.

Researchers at the institute are studying a swine disease which prevents sows from absorbing enough B₁₂. The disease may be hereditary. It has certain similarities to pernicious anemia in man.

"We do not know how widespread this disease is, but it does not seem too important at the moment." However, Dr. Frederick says, "It could become extremely important very fast because of the tendency to emphasize specific breeding lines.

"One of our jobs is to spot potential problems like this and to take steps to prevent them from becoming serious."

A promising lot of sows on pasture. ▼



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RECOMMENDATIONS FOR GROWING GRAIN CORN

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SOIL

The land should be well drained, preferably tile-drained. This crop can be grown in many kinds of soil if they are well drained and fertilized.

PLACE IN THE ROTATION

The ideal place in the rotation would be following legume hay or after sugar beet or grain.

VARIETIES

Only **early** varieties are suitable for our agricultural regions.

It is important to harvest corn that is well matured, when the grain does not contain over 35% of moisture.

The Quebec Seed Board publishes a list of varieties best suited to our conditions every year.

For grain corn, use only the hybrids recommended by the Board for zone 1, which are listed according to the number of heat units they require to ripen. These hybrids are as follows: Dekalb 29, Pride 4, Funk's G-2, Funk's G-2-A, United Hagie 108, Jacques 850-J, Pioneer 3891, Pride 5, United Hagie 7, Warwick 263.

DATE OF SOWING

This is a very important factor:

Sow as early as possible in May, preferably not later than the 20th.

A light frost after the corn has sprouted will not do any serious harm.

RATE OF SEEDING

The following average rates are recommended:

To begin with; 16,000 plants to the acre, i.e. about 11.5 lb. of seed per acre. Approximate cost, \$21 per acre.

Spacing :

Thirty inches between rows and about 11 inches between plants in the row.

Use of the following table is recommended.

Number of plants desired per acre	Number of seeds to sow per acre allowing for 15% loss	Space in inches between rows				
		28	30	32	34	36
		distance in inches between plants in the row				
16,000	18,400	12.1	11.2	10.6	10.0	9.4
17,000	19,550	11.4	10.6	10.0	9.4	8.8
18,000	20,700	10.8	10.0	9.5	8.9	8.3
19,000	21,850	10.2	9.5	9.0	8.4	7.9
20,000	23,000	9.7	9.0	8.5	8.0	7.5
21,000	24,150	9.2	8.6	7.6	7.6	7.2



▲ A good stand of corn on a Quebec farm.

An ordinary seeder can be used but we strongly recommend the use of a corn seeder.

Reduce preparatory tillage to a minimum.

Make sure that the seeder is accurate and set properly.

Do not sow too quickly — not more than 3½ miles per hour.

Roll the ground after seeding.

FERTILIZATION

This is a very important factor.

It is always better to have the soil analyzed.

For general recommendations about the application of fertilizers, see the Recommendations of the Quebec Fertilizer Board.

If an ordinary seeder is used, try to make sure that commercial fertilizer does not come into contact with the seed in the soil.

Suitable fertilization will advance maturity by one to two weeks.

Approximate cost: \$25 to \$30 per acre.

WEED CONTROL

Weeds are a problem: they must therefore be controlled either by cultivation and harrowing or with herbicides.

HERBICIDES

If there is no couch grass: 2-4-D.

If there is couch grass: Atrazine, 2-4 lb. per acre, or Atrazine, 1-1½ lb. per acre plus 1½ gallons per acre of Imperial oil 862.

For spraying directions, see the manufacturer's instructions.

tions concerning pressure, dilution, and tractor speed.
Spray as soon as possible after sowing, preferably in still, cloudy weather and while the soil is damp.
Approximate cost : herbicide and spraying, about \$7 per acre.

HARVESTING AND STORAGE

Harvest the corn when the grains have hardened and their moisture content is below 35%, generally speaking about the beginning of October.
Approximate cost of harvesting : \$7 per acre.

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Storage
If used for dairy cattle, keep the corn in the ear in cribs well exposed to the wind.
Dimensions of cribs
Rectangular : not more than four feet wide, 10 feet high; the length is not important.
Round (snow fencing) : not more than 6 feet in diameter nor 8 feet high.
N.B. Farmers who are interested in buying machinery on a cooperative or "pool" basis may take advantage of a loan from the Federal Farm Credit Corporation provided that at least three of them apply for it.

Denis Bastien, Agronome,
Plant Products Division,
Quebec Department of
Agriculture and Colonization
Gaetan Lussier, Agronome
Instructor at the Institute of
Agriculture Technology,
St-Hyacinthe.

THE FARM OF
A. L. MEYER & SON
by Omer Beaudoin

In 1963, Mr. John A. Meyer was honoured with the title of Master Breeder by the Canadian Holstein-Friesian Association. He was the hundred and tenth person on whom this distinction had been conferred since its creation in 1930 and, at 37 years of age, the youngest Master Breeder in Quebec. In other words, he knows his cattle. He is recognized by the Association as an official judge and his services are often in demand in the show-ring at fairs and exhibitions.
This competitor was only 13 years old when his father, Mr. A. L. Meyer, — who still lives on the farm — established himself on these 118 acres of land at Lachute. Young John, who was a member of the junior breeders' club, soon lost interest in the grade cattle which then made up the herd and started to yearn for purebred animals. It was not long before his father grew to share his enthusiasm for them: a few head purchased from James A. MacKenzie of Lachute and Donald A. McPhee of Vankleek Hill formed the foundation stock of the Meyercrest herb. The BCA ratings of the best seven cows in the herd in 1964 are given below.

The average BCA percentages for the herd as a whole were 105 M., 111 F., in 1963 and 107 M., 111 F., in 1964. For the benefit of dairy farmers, we feel that two things should be pointed out in this connection: Mr. Meyer has all of his cows on test, and he never removes an animal from testing during her lactation period. The Provincial A.I. Centre has already bought two Meyercrest bulls — Ajax Transmitter and Rag Apple Sovereign.
The hundred acres of clay soil are farmed, with the primary object of providing feed for the cattle, in a six-year rotation: one year of silage corn, one of oats, and four years of sod crops. The season's (1965) 22 acres of Garry oats may yield about 35 bushels to the acre. There are 15 acres of Pride corn. The stand of corn is uneven and in some places the plants are still having to compete with weeds, in spite of the use of herbicides. Except for an aftermath of alfalfa which is standing up well to the drought, the grasslands are so bare that the cattle are already having to be fed as though it were winter.
No special effort has been made to brighten up the buildings for the contest. The barn is clean and comfortable and the milk-house contains an up-to-date bulk cooling tank.
Situated some distance from the road, the house is finished with stucco and surrounded by a lawn, maples, willows, and a number of apple trees. The family includes two girls and two boys whose ages range from 11 to 18, and a baby of 14 months. If Mr. Meyer were to take as much trouble with his crops and farm buildings as he does with his cattle he would sooner or later win the highest honours of the Order of Agricultural Merit.

Name	Milk production	Fat production	BCA's	
			Milk	Fat
Meyercrest Sovereign R.A. Linda	15,864	569	147	143
Rosafe-Shamrock Pontiac May	20,382	732	149	146
Meyercrest Wing Patricia A	13,190	541	117	131
Meyercrest Ajax Queen Lena	14,373	541	121	124
Meyercrest Ajax Colantha R.A.	17,050	613	143	140
Meyercrest Mistress Johanna June	14,337	536	120	123
Meyercrest Helen	13,731	537	118	126



THE BETTER IMPULSE . . .

News and Views of the Women's Institute of Quebec

MATAGAMI PROMOTES ASSISTANCE FOR INDIAN NEIGHBOURS.

The Matagami Branch of the Women's Institute have been concerned for the welfare of their Indian neighbours on the nearby reservation. Some months ago they began actively working for a change, and much correspondence followed with letters to the Department of Indian Affairs, to local Members of Parliament, and to the local Council. Members also consulted in person with the council. Their efforts produced results, and at the beginning of this year, a meeting was held with Provincial Federal and local representatives, including the W I Committee. Main topics under discussion were improved housing and education.

Three main decisions were reached: one, that two wash trailers, containing wash basins, showers, toilets, cupboards and sinks, would be provided; second — that a local nurse would hold a Baby Clinic twice a month; and thirdly, that a nurse from Amos, under the Department of Indian Affairs would visit regularly. Institute members are delighted that their efforts have produced some immediate results. They feel that much more needs to be accomplished and plan to continue their interest in this project.

The W I have been busy in their own community also. The need for a local hospital was studied, and the town was petitioned for same, and also for the services of a dentist and an optometrist. Here again their efforts were rewarded. A dentist visits one day each week. A Hospital Board was formed, and the construction of a 28 bed "Isle Dieu Hospital" will begin this year.

Members enjoyed a tour of the new school addition, and saw the library to which they had donated funds and books.

STANSTEAD COUNTY SCHOOL FAIR

During the period beginning about 1915, the Quebec Department of Agriculture began actively to promote school fairs. In March 1917 Mr. W. G. MacDougall, the agronomist at Sherbrooke, and Mr. Egbert McOuat spent a day in Way's Mills with the purpose, among others, of ascertaining whether the Homemakers' Club, as the Women's Institute was then known, would give help in organizing a school fair for Stanstead County. The day was rainy; the river overflowed; and the visitors had to be taken over fields and pastures to reach the highway to Lennoxville. However they accomplished their purpose. Support was promised, and Mrs. Cora Sullivan was appointed as assistant in the work. She had charge of the sewing and cooking departments for many years.

With support coming also from the school boards, the first fair was held on Wednesday, Sept. 11, 1918. Perhaps a few sentences from the program for this first fair will express the purposes of the founders — and of those who carried it on:

"The objects of this School Fair are to create an interest in Agriculture, and to stimulate the cooperative idea among boys and girls of the country."

At this time several WI branches were providing instruction in sewing in their local schools. Teachers were glad to have the stimulus of competition for their pupils. By 1920 all branches were contributing money for school fair prizes. The next year the proceeds of the sales table at the county fair were used for the school fair, a practice continued for many years. Thus the school fair became a joint project, sponsored by the Department

of Agriculture, the school board, and the Women's Institute, with Mr. MacDougall as director, and assistance being given by teachers and Institute members. Gradually the fair expanded to include livestock-judging competitions, a public speaking contest, and a parade with prizes for the best marchers or float entered by the various schools. This parade was a popular feature of the fair for many years. A greater variety of seeds was given out, and a manual training exhibit for the boys was added to the sewing and cooking exhibits for the girls.

As the school population grew, the fair became rather unwieldy. The school board in Magog, the largest city in the county, withdrew its support, and the pupils from the school there no longer attend the fair. The Central School Board decided that the pressure of academic work would not allow them to give a school day for the fair. However, at the urging of the WI it was continued on a Saturday. The use of the school buses was permitted and some teachers volunteered their services. The Institute took over the work of giving out entry tickets at the schools. Members continued to act as judges of the sewing and cooking and as scorekeepers.

In 1962 the Department of Agriculture gave up its support of school fairs and ceased to provide seeds for the children. However, with the help of a grant from the County Council, and continued financial support from the Central School Board, the Institute has been able to carry on. A committee from the Institute, with representatives from the teachers and principals, directs the fair with the advice and assistance of Mr. MacDougall, who, though now retired, maintains a deep interest in the fairs. The WI now buys the seeds, arranges for their distribution, makes the arrangements for the fair, and handles the financial and clerical work,

and distributes the prizes. The program now includes, besides the exhibits of fruit, flowers and vegetables, cooking and sewing, manual training and hobbies, sports, a talent show, and a square dance competition. With the inauguration of a public speaking contest in the winter, this feature was dropped from the fair. At their request the boys have been allowed to enter the cooking exhibits, and frequently carry off prizes. For some years the Institute has offered a trophy to the girl winning the highest number of

points, a similar trophy for the boys being offered by the Central School Board. The winner's name is engraved on the cup and it is on display at his school for the following year.

Interest among the children is still high, and attendance at the Saturday fairs has held up very well. At the 1965 fair there were 344 exhibitors, showing 843 exhibits, not counting some taking part in the talent show and the square dance competition.

Mrs. Rixford Knight,
President, Stanstead Co. WI

Note from Mrs. Palmer, QWI Publicity Convenor re the above:

The above story of the Stanstead County School Fair is excellent proof of the value of the fair, and of the devotion and service of the WI to young people in the communities represented. The changing nature of the Fair shows adaptability to the changing needs of the students. And congratulations to the County for continuing a valuable project after the withdrawal of some of their financial and professional assistance.



by Norma E. Holmes

Dear Min :

(Still travelling). My bus tour of the continent started early in the morning from Victoria Coach Station. The 32 of us climbed on board, taking sidelong looks at each other. Nine countries were represented and a wonderful group. When you travel together for 2 weeks you develop a real family-like atmosphere. Carroll, our courier (guide to you) was young and handsome and spoke — and sang — in 8 or 9 languages.

The countryside from London to Dover was rolling and much like home. Smaller fields, of course, and in all of Europe few fences, and then mostly electrified wire. In the English villages we passed small brick houses, and double houses with lawns divided precisely and definitely down the middle — yours and ours — and for added emphasis, low brick or stone walls, front, sides and back. They have a real passion for flowers, especially roses, although they also are of course trained not to trespass on the neighbor's property. Apple orchards, open country, fields and woods, some cattle and sheep, and a path beside the highway because people walk in England.

We boarded the boat at Dover for Ostende. On the lowest deck are rooms with very comfortable — and clean — double decker bunks. So, seeing the

upper decks were five rows deep with chairs, with people in them, some of us crossed in lying-down comfort.

We picked up our excellent Belgian driver, Roger, in Ostende. Our Parisian night guide complimented him on his driving — maybe because unlike Paris cars, the bus showed no signs of battle. But then, what bus is afraid of even a Paris car driver?

By the way, I never opened my suitcase once for customs, or spoke to an immigration officer. They just looked at us and evidently decided they had some of their own that looked no better. At European hotels your usually hand in your passport at the desk and after you are duly reported to the police, you get it back. I wonder what notes they take — 'Oh boy, get a load of this picture. No spy could look that bad. She must be all right.'

Stayed in Brussels overnight and had a Belgian guide, André, for an evening tour. The Market Square (Grand Plaz) is surrounded by beautiful, gold decorated buildings, the headquarters of the old Guilds. At night it was fairyland. We visited a lace shop where a man demonstrated how they use the bobbins — 200 or more for the rose-point — beautiful cobwebby lace. We also visited a tiny old tavern, dating from 1213, which is headquarters for the Order of the Crossbow. A plaque outside gives the clubs presidents, King

Albert, King Leopold etc. Carroll said we should all order cherry brandy, which was special to Brussels. I tasted someone else's and ordered a lemon mixture which was cheaper. The tavern is to be torn down in the name of progress. Travel now, Min, because by the time every country has nothing but steel and glass and concrete boxes, you might as well stay at home. We also called at the Palais de Justice which André said was the biggest in the world (over 1000 rooms), but we had to take his word for it, as the guard on duty decided there was no crime worth bothering about and had gone home — probably to drink cherry brandy.

Many of Belgium's villages and towns were almost completely destroyed in the two Great Wars so there are a lot of new houses. They are very pretty with lots of flowers and clipped lawns. One man said he saw a house that was damaged in the First War, repaired, damaged in the Second and repaired and you could see the three different stages of its life.

There is a lot of reforestation, but Belgium is short of wood, so it is illegal to use it in dwellings for man or beast. Everything is brick or stone with the usual tile roofs. André also said that Belgians are the greatest beer drinkers in the world, but you had better check with the Encyclopedia Britannica. Belgium is the most thickly populated country in the world — 670 to the sq. mile — (Carroll and André). I heard a man the other day state that Holland was, but I paid for that tour, so I say it is Belgium. However it looks prosperous. So does Luxembourg, which is a little picture book principality. They tried to remain neutral in the First War and were used by the Germans as a huge camp, but twice was too much, so in the Second they resisted and as a result almost the entire capital was destroyed.

Next — into Germany. Back home the corn's all in. They grow a lot of corn 'on the continent'. See how easy it is?

Eloise

The Month With The W. I.

ABITIBI : MALARTIC : Sewing course was conducted under Mrs. Wells; apron and handkerchiefs donated to the "Club L'Age"; tile demonstration given. **MATAGAMI :** Mrs. Ducker, President, presented Mrs. Comba, retiring president with a silver spoon with the FWIC Crest, in recognition of her service as the first president of this branch; Mrs. Ducker plans to attend Leadership Course; very successful sale of slips and bulbs held.

BONAVENTURE : BLACK CAPE honoured four members with perfect attendance during past year; members assisted at shower for resident whose home was destroyed by fire; convener of education spoke on physical fitness in children and adults, showing that physical exercises can improve health both mentally and physically; helpful hints for housecleaning given; publicity convener conducted quiz on the Handbook, and showed film strip on AC-WW; goods purchased for Christmas stockings. **CASCAPEDIA** donated to Save the Children Fund; appointed delegate to Leadership course; quiz on handbook by publicity convener. **PORT-DANIEL :** two members presented with a gift for perfect attendance in past year; 6 pairs woollen mitts given to Shigiwake — Port Daniel Auxiliary class. **RESTIGOUCHE** remembered Senior Citizens with Valentines and gifts; baby shower for member of community.

BROME : SUTTON : Each member named a medical discovery of importance, and a brief discussion followed each, with discussion based on the saying that Health is the blessing of the rich, and the riches of the poor; rehearsing play for drama contest; large case of mending was distributed to members, mending done by members and repaired clothing returned to the Flambeau Home; this service is much appreciated by the Home.

CHATEAUGUAY-HUNTINGDON : **AUBREY-RIVERFIELD** held social evening; enjoyed visit with Mrs. Carnie, formerly of Vancouver; special collection for Pennies for Friendship. **DEWITTVILLE :** Dr. Thompson, of Barrie Memorial Hospital, spoke on

Medical Problems of Women after 40, with question and answer period; expanded special section for young exhibitors at Huntingdon Fair, with 93 Specials offered for children. **DUNDEE** held discussion on present-day education and changes that could be made; donated prize money to children's section of Huntingdon Fair. **FRANKLIN CENTRE** heard Dr. Kelen speak on the dangers of overweight and ways to control it, also gave demonstration of artificial respiration; article read by Health and Welfare Convener on the "Dangers of Deep and Persistent Coughing."

HEMMINGFORD : Dr. Belanger gave a talk and showed slides of his trip to Athens, Turkey, France, Spain and Portugal. **HOWICK** heard paper on care of trees and several ideas for gardens read by Mrs. Marsden; held homemade candy contest; also contest making most words from "Agriculture". **HUNTINGDON** held individual salad contest, which were later served with biscuits; received nice donation of material for Christmas Stockings. **ORMSTOWN :** Mrs. L. Cullen spoke on "How We Can Beautify Our Town", followed by good question and answer period; trees to be planted at War Memorial or Community Centre.

COMPTON : BROOKBURY members are planning participation in drama contest; sent gifts to member in hospital. **BURY** also in the drama contest; welcomed 3 new members. **CANTERBURY** honoured Mrs. P. Coates, Mrs. D. Mayhew and Mrs. R. Thompson for perfect attendance; plan improvements and the painting of their hall. **COOKSHIRE** donated to Quebec Service Fund. **EAST ANGUS** reports a successful paper drive. **EAST CLIFTON** donated to Quebec Service Fund, and to cemetery in memory of deceased members. **SCOTSTOWN** donated to Heart Fund.

GASPE : The **GASPE COUNTY W I** awarded their Annual scholarships for highest marks in Grade X to Bill Palmer of Murdochville, and to Daniel Sweeney, student at Holy Rosary Convent, Gaspé. **MURDOCHVILLE** re-elected Mrs. D. Davis as President.

WAKEHAM elected Mrs. G. Miller as president, after thanking the retiring officers; sang Irish songs or recited Irish verses; each member told "how to stop a cold before it catches you".

GATINEAU : GATINEAU COUNTY W I'S discussed the holding of elections on Sunday, with members strongly opposed; letter to this effect, signed by each member, was sent to Premier Lesage of Quebec, and to Gatineau Member. **BRECKENRIDGE** discussed Canada's Centennial; contest on Our Provinces; Red Cross Sewing distributed; cottons for cancer collected. **RUPERT :** as roll call told how to keep well or gave a health rule; paper on accidents in the home; donated to Red Cross; celebrated their 40th Anniversary by going to the Chateau Laurier Hotel, Ottawa, for dinner, and then saw a show.

WAKEFIELD : Mrs. L. Lafleur read report of work done for Citizenship in the County; sent slides with commentary to be included in Panorama FWIC. **WRIGHT :** Mrs. E. Kelly gave demonstration on how to cut out a pattern, and how to sew in a zipper by hand; Mrs. F. Thayer won 1st prize, and Mrs. D. Stephenson 2nd for best sewing; contest "Jumbled Cake" won by Mrs. S. Ogilvie.

JACQUES CARTIER : Illness has quite shattered this branch but they have planned the program for the coming year and are expecting to carry on. The quilt which was raffled was won by Mrs. I. B. Blake, formerly of Ste. Annes. More about the quilt next month.

MISSISQUOI : COWANSVILLE enjoyed visit of County President; renewed sponsorship of West Indian girl; **STANBRIDGE EAST** also enjoyed visit of County President; contest held with a drawing of invited guests' names, winner receiving as a prize a year's membership in the W.I.

PONTIAC : BEECHGROVE discussed handicrafts, with exhibits from several members; donated to Ade Memorial Hospital.

BRISTOL discussed Centennial projects; told an Irish joke. **FORT COULONGE** read articles from Federated

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RICHMOND : CLEVELAND donated \$100 to Richmond County Historical Society's Centennial Project, as a memorial to the late Miss Alice Dresser; attendance prizes won by Mesdames C. Pease, K. Stevens, G. Healey; A. Smith and G. Perkins. GORE had as roll call "What to do in Case of fire in your house"; ordered 5 flowering crab trees for members as centennial project; handed in 600 cancer dressings, and more given out to be made up; chinaware gift to member in hospital; articles read on colonization of Drummond County, and on the construction of railways; article on beware of Synthetic Meat. MELBOURNE RIDGE donated to Historical Society in honour of the late Miss A Dresser; told a joke as roll call. RICHMOND HILL entered 2 names in Memory Book; held sale of fancy bread; sent box of clothes to Dixville Home; held bridal shower; are quilting. RICHMOND HILL YOUNG WOMEN held discussion on how to improve meetings, stressing importance of conveners taking a more active part; jumbled word contest held; held rummage sale, and sale of remnants donated to the branch; donated to Historical Society. News, also 2 Irish readings; answered roll call by giving a written suggestion for a monthly meeting. WYMAN donated to Save the Children Fund; told an Irish joke.

SHIPTON entertained some members of Richmond Hill Branch; sold 50 dozen daffodils for Cancer Society.

SPOONER POND : gave pennies corresponding to shoe size for Pennies for Friendship; donated to Historical Society Centennial Project in memory of the late Miss Dresser; voted to continue holding Children's Fair, with choice of vegetables and flowers left to Agriculture Convener; contest held on the Handbook, with Mrs W. Coles as winner; brought in 16 Christmas Stockings — the branch divided its members into

groups; where there were 4 or 5 living near each other they filled 2 stockings, a group of 2 or 3 filled 1 stocking, with members donating contents.

ROUVILLE : ABBOTSFORD : special committee to draw up brief on agriculture (Mesdames S. Fisk, F. Crossfield, H. Marshall and J. Gillespie) presented its report, and discussion held; gift presented to Mrs. C. Whitney, a newcomer to Abbotsford.

ROUYN-NORANDA : FARMBO-ROUGH and NORANDA divided the proceeds of sale of doll and doll's wardrobe; the doll clothes were made by members and were exquisitely done. NORANDA collected Pennies for Friendship; completed Christmas Stockings; incoming President Mrs. C. Vatcher appointed to attend Leadership Course; collected men's shirts, white and light-coloured, to make hospital gowns for Cancer Society.

SHEFFORD : GRANBY HILL reports 4 members with perfect attendance; talk on maple tree tapping; making an appliqued tulip quilt for later sale. GRANBY WEST donated over \$100 to Granby High School to provide food for needy children; donated to Cancer Society; contest on Home Economics. WATERLOO WARDEN: contest by publicity convener.

STANSTEAD : HATLEY held card party.

VAUDREUIL : HARDWOOD enjoyed interesting talk by former member, Mrs. McNayr, now teaching in local school; Mrs. McNayr outlined methods used to bring out creative ability of students in study of art and literature, and showed examples of original poems, drawings, painting and paper sculpture work created by her class of 10 year olds.

THEATRE NIGHT

A capacity audience attended a Theatre Night at the Huntingdon Theatre recently. This event was sponsored by the Dewittville Women's Institute, under convenership of Mrs. C. Bryson and Mrs. J. Leger. The proceeds of over \$400 were turned over to the Chateaugay Valley Association for Retarded Children. This Association has been in operation just in the past few months. A special class has been run in Huntingdon, and another in Valleyfield during the winter months and excellent progress has been made by the retarded students who have been able to attend.

Mr. Arthur Brockman, Principal of Huntingdon High School, and Vice-President of the Association spoke briefly of their work and their gratitude for the wonderful support they have received. Mrs. H. Robertson

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president of Chateaugay-Huntingdon County W I presented the many Lucky Number prizes which had been donated by interested merchants and individuals. Members from all other W I branches in the county were in attendance to support this project of their sister branch. The evening was an outstanding success.

GATINEAU MEMORIAL HOSPITAL GARDEN PARTY

Gatineau Memorial Hospital in Wakefield was incorporated on Oct. 4, 1950. This hospital was the brain-child of its first Superintendent, Dr. Harold J. G. Geggie, who came from Beauport (now part of Quebec City) to Wakefield in 1911 as an assistant to Dr. Hans Stevenson and who, three years later, married Dr. Stevenson's daughter Ella. Today, Dr. Geggie, although retired, is still keenly interested in the hospital and all it stands for. He has three sons, Dr. Hans, Dr. David and Dr. Stuart who make up the medical staff of the hospital and who are continuing his good work.

Many years ago Dr. Geggie recognized the desperate need of a hospital in this area. He noised the idea around and it was not long after, in the spring of 1945, that the Wakefield WI, of which his good wife is a member, offered to help in any way it could. Being true members of the Women's Institute, they 'put into action their better impulses straightforward and unafraid'. They put on a play, "Dirty Work at the Crossroads". The play was so well received that they put it on in nearby communities. As a result of this venture, the Wakefield WI was able to donate \$320.00 — the second contribution to the campaign for funds. This money was immediately invested in blankets, pillows and sheets — war surplus goods.

A beautiful site was chosen where the La Pêche Creek empties into the Gatineau River. The dwelling was originally the home of the manager of Alex. MacLaren Co. Ltd. and was bought by J. R. Smith who converted it into a guest-house. They called it "The Manor House" and added a tennis court and a coffee shop. The Manor House was bought in 1951 and Gatineau Memorial Hospital opened Mar. 1, 1952. The tennis court is now the parking lot and the coffee shop was torn down to make way for the kitchen, children's ward, maternity ward and delivery room.

In 1953 the Wakefield WI held their first garden party on the hospital lawn, which was so successful it became an annual affair. The WI members with the help of their husbands and friends,

set up booths for the sale of home-cooking, fancy work, plants etc. There is a fishpond for the kiddies and Tea is also served. Each year the proceeds of the Garden Party are used to purchase equipment for the hospital or nurses residence.

Assistance comes also from Kazabazua and Wright Institutes which are some 35 and 40 miles away. Since more and more ladies are driving cars, they now not only help by baking, but also help in serving, washing dishes etc. Contributions of money and articles from individuals are also received.

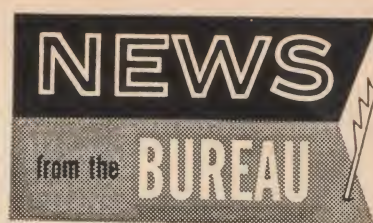
The Wakefield WI rollcall for June is always 'an article to be sold at the Garden Party'. Representatives are present from the Auxiliary units and a date is chosen for the Party and committees set up. Local business men lend trucks and drivers to pick up tables, etc. borrowed for the occasion.

It was not until 1956 that Gatineau Hospital Auxiliary was formed. Later, South Hull, Rupert, Kazabazua and Chelsea formed Auxiliaries. Although only the first three remain, individuals from all the lower Gatineau, Hull and Ottawa, and even as far as London, Ont. and Québec City come and give their physical as well as moral and financial support to the Garden Party.

One year the Canadian National Institute for the Blind provided music during the afternoon, but, since it is held on the lawn of the Hospital, it was found to be too noisy for the patients, so, since then, no form of entertainment has been encouraged.

Plans were under way to build a bigger and better hospital and to convert G. M. Hospital into a home for senior citizens, an institution which is even more desperately needed than a hospital in this area, if that is possible, when into force. The Provincial Government the Quebec Hospital Services Act came has turned down this request, for the time being at least, their reason that they have just built a large hospital on the Gatineau in Maniwaki, and another one in Hull. This, coupled with the fact there are many areas in Quebec which are in much greater need of a hospital than we, since we are only 19 miles from the new Sacred Heart Hospital in Hull. This may be true, but if you have ever been a patient in a cottage hospital such as ours, you will realize that you are a person and not just a room number and the atmosphere is so informal and friendly that its therapeutic value is impossible to measure. It is small wonder then, that so many people donate so much time and effort so willingly to make of our Garden Party the success it usually is.

Mrs. L. C. Lafleur



Why promote milk when there is no surplus?

Promotion of milk is designed to enhance its value to the consumer. In a surplus situation this is absolutely essential; when there is no surplus it is still very important.

Production and consumption are never exactly in balance. Should dairy producers abandon the field of promotion to their competitors and imitators one thing is certain: The resulting gains to the continually-promoting soft drink bottlers, margarine manufacturers and all of the others who cast covetous eyes on the markets for dairy foods would soon put milk back into a surplus position.

If you expect to derive your livelihood from dairying for some time to come it is essential to build and maintain a demand for dairy products. Once lost this becomes almost impossible to regain. The activities of the Bureau, along with the efforts of branded distributors and processors, act as a constant and continuing force for maintaining a healthy demand for milk and products made from milk.

It has taken years to bring the Bureau's efforts to the role of prominence they now play in Canadian food merchandising. The slightest interruption or lessening of these efforts can dissipate very quickly the investment you have made by means of the set-aside over the past fifteen years. The average supermarket stocks about 6,000 items, only a few of which are dairy products. There is no scarcity of people willing and anxious to fill any promotional void left by a lessening of effort on behalf of dairy foods.

Make sure your voice continues to be heard in the market-place. Your contribution to the Bureau's promotional programme helps build better market conditions for your milk and cream.



**THE CANADIAN DAIRY
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Honored recently for twenty-five or more years of service with the College were five members of the academic staff; reading from left to right: Dr. N. Nikolaiczuk, Dr. F. O. Morrisson, Dr. W. Rowles, Prof. J. Cooper and Prof. H. R. Murray.

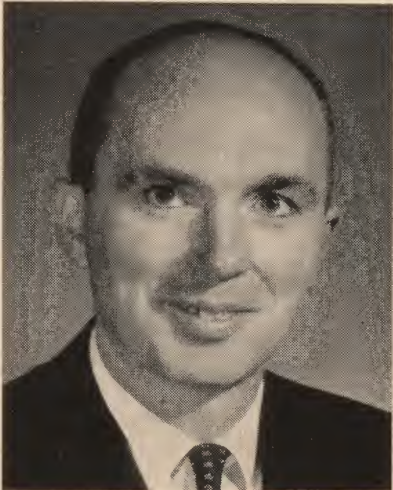
Dr. GRANT ON MUTATIONS

In May, Dr. W. F. Grant, Dep't of Genetics presented a paper before the Genetics Society of Canada at Banff, Alberta. He has just completed a two-year term as the society's Eastern Director.

Dr. Grant reported on his research with barley which indicated that certain herbicides and insecticides can cause inheritable damage to chromosomes in living cells.

He was assisted in his studies by K.O. Wu, who is returning shortly to Taiwan with his Ph. D in genetics.

Their paper "Morphological and Somatic Chromosomal Aberrations Induced by Pesticides in Barley", will be published in the Canadian Journal of Genetics and Cytology.



Dr. W. F. GRANT



Dr. W. E. SACKSTON

CONFERENCE ON SOIL FUNGI

Dr. W.E. Sackston of the plant pathology Department, attended a conference on soil fungi at Portland, Oregon, May 13 — 14. While on the West coast, Dr. Sackston visited the Department of Plant Pathology of the University of California at Berkeley.

The purpose of Dr. Sackston's trip was to discuss with fellow research workers the difficulties involved in studying and controlling soil micro-organisms.

Many extremely destructive plant diseases are caused by fungi in the soil. Control of these fungi is often difficult. Chemical controls are expensive and thus are used only on crops which give high returns per acre. Biological control by the use of beneficial soil organisms is desirable, but it is difficult to adjust and maintain the required levels of soil activities.

Dr. DION TO NOVA SCOTIA

Dr. H. G. Dion, Dean of the faculty of Agriculture, attended this year's graduation ceremonies at the Nova Scotia Agricultural College in Truro.

He presented the Macdonald College Scholarship to H. W. Cook, the class valedictorian who received his degree with high honours.

Forty-three students graduated this year; many of these will continue their studies at Macdonald in the fall.

FIRST REPORTS FROM D.H.A.S.

Wednesday, May 18, marked another step in the automation of Dairy Farming in Quebec. The first reports to farmers enrolled in the Dairy Herd Analysis Service were released from the computer centre at Macdonald.

The new system includes IRMA, the INFRA-RED-MILK-ANALYZER that performs the complete milk analysis in 70 seconds, replacing many hours of tedious laboratory work.

JUDGE AT VERMONT SHOW

An honour offered to few ladies was accorded Miss Marlene Robison, 4-H Representative for Western Nova Scotia, in that an invitation had been extended to her by the Vermont Jersey Breeders' Association to judge the Vermont State Jersey Show on Saturday, May 21st.

Marlene graduated from Macdonald College with her B.Sc. (Agr.) degree in 1965.

MUTATIONS —

(continued from page 11)

of mutations. These discoveries have added up to be one of the major advances of this century.

Radiation (x-rays, radium rays, ultra violet light and others) may greatly increase the natural mutation rate. Seeds exposed to a controlled source of radiation will produce plants which may be quite different from the parents, and breed true. A few chemicals can be used in the same way.

A recent chance discovery in the greenhouses at Macdonald College suggests that bacteria may also cause genetic changes. Mr. Edward Gyapay and Dr. W. F. Grant, working with the organism (*Agrobacterium tumefaciens*) that causes Crown Gall in tomatoes found to their surprise that the disease had caused changes in the tomato plants that could be passed on in the seed to the following generations.

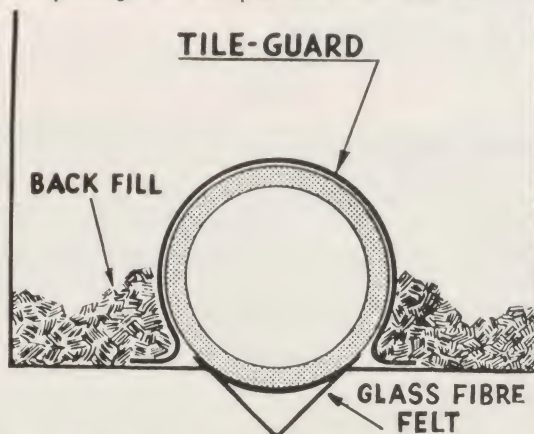
Just what their changes were is not important at this point. But the discovery of a possible cause of mutations not previously known marks one more exciting step forward.

Mr. Gyapay's and Dr. Grant's paper, Bacterial-induced Genetic Abnormalities in Tomato, is published in *Genetics* 52:446, — 1965.

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NEW FEDERAL PRICE SUPPORT BENEFITS ALL MILK PRODUCERS

AVERAGE RETURN \$4.00 PER HUNDRED

The new Federal Government policy of price support and direct payments will give all dairy farmers increased returns for their milk, whether they ship manufacturing milk, fluid milk or cream. The new policy is designed to bring economic stability to the dairy industry and prevent runaway consumer price increases by ensuring adequate supplies of dairy products.

HOW IT WORKS FOR THE FARMER

A.  The Federal Government will pay the farmer 75¢ for each hundredweight of manufacturing milk with a 3.5% butterfat content. Another 10¢ will be put in reserve to assist the export of by-products and surpluses.

B. The Federal Government, through export assistance and direct purchases of such products as butter, will create a demand which will enable processors to pay \$3.25 per hundredweight of manufacturing milk with a 3.5% butterfat content. However, the government has no authority to set the prices processors pay producers. It is in your own interest to negotiate the best possible price for your milk through your farm organization.



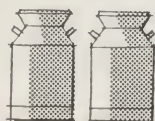
METHOD OF PAYMENT



MANUFACTURING MILK SHIPPERS: You will receive a direct payment from the Federal Government of 75 cents per hundredweight on all milk. Your payment will be made **monthly** by cheque from Ottawa.



FLUID MILK PRODUCERS: You will receive 75 cents a hundredweight on all milk over 120 per cent of the amount for which you receive fluid prices. For instance, if your dairy pays you fluid prices on 10,000 pounds in a certain month, you will receive the government payment on all milk over 12,000 pounds. Cheques will be mailed **once a month** from Ottawa directly to you.



CREAM PRODUCERS: You will receive 21.43 cents per pound of butterfat (the equivalent of 75 cents per hundredweight of milk with a 3.5% butterfat content). Because time is required to complete the registration of producers and to set up a reporting system, your cheques will go out from Ottawa **every three months**.

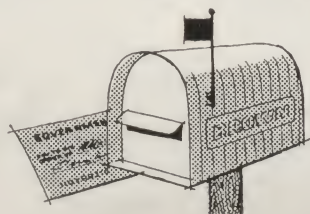
NOTE:

Because the fat content of milk varies, the 75 cent direct payment is based on a standard 3.5 per cent butterfat content in milk. This works out to 21.43 cents per pound of butterfat. If your milk tests 4 per cent, then your payment will be four times 21.43 or about 85 cents per hundred weight. On the other hand if your milk tests 3% then your payment will be three times 21.43 or about 64 cents per hundredweight.

REMEMBER TO REGISTER

Milk producers must be registered with the Agricultural Stabilization Board in Ottawa and be assigned a registration number. Manufacturing milk and cream shippers who participated in last year's supplementary payment program already have a registration number and do not need to register again. But fluid milk producers are not registered; they should do so as soon as possible. To

register, get the proper form from your dairy, manufacturing plant, cheese factory, or creamery. Fill it out and send it off to Ottawa. If you ship to more than one plant, you do not need to register twice but you must inform all outlets of your registration number so they can relay the information to Ottawa. Remember it will be impossible to participate in the program if you are not registered.



CANADA DEPARTMENT OF AGRICULTURE
OTTAWA

HON. J. J. GREENE, MINISTER